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In response to increasing student enrollments, expanding knowledge, and other pressures, some colleges and universities are spending their own funds to establish educational development programs that will improve the quality of instruction. A study of ongoing programs was conducted to analyze new educational techniques, determine how they affect institutions, and consider the implications which these developments have for higher education. Interviews were held with 175 persons concerning 16 kinds of programs at 13 public institutions that are individually unique yet have similar basic characteristics. Generally, the programs are: (1) educational development programs -- some help faculty develop new teaching methods, and others coordinate instructional improvement and curriculum revision, (2) offices of instructional resources -- a combination of agencies that coordinate and offer course development, audiovisual, testing, and other services to faculty, (3) research centers -- agencies conducting in-depth studies on 1 aspect of educational development for the whole university, and (4) projects -- departmental activities funded through any of the 3 programs above. It was concluded that these kinds of programs will continue to have administrative support, but further evaluation should be conducted to determine how they affect each institution's overall academic program. Their continued existence may depend on how successfully they can be incorporated into current teaching practices. (WM)

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AN EVALUATION OF EDUCATIONAL DEVELOPMENT PROGRAMS IN HIGHER EDUCATION

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Michigan State University

East Lansing, Michigan

March 1968

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U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

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PART I

PREFACE

The combination of a sabbatical leave from Michigan State University and a research grant from the U.S. Office of Education provided an opportunity to look in detail at various educational development programs around the country and to exchange ideas with others wrestling with innovations. The purpose was not so much to find out what was being done, since much of that has been published, but rather to discover how new ideas and procedures are introduced. After visiting several institutions, two main factors became apparent which changed both the strategy and tactics of the study.

First, it became clear that on the one hand the broad purposes of the institutions were very similar, the faculty could teach at any institution without much modification, and the students, in general, did not see much difference in undergraduate programs. On the other hand, however, the middle-management of each institution was unique. No two institutions had set up the same machinery to solve common problems. Personalities, traditions, and budget restrictions conditioned how things were accomplished. It was therefore decided not to try to compare institutional procedures, but rather to talk about the range of educational development problems and decisions facing institutions.

Secondly, people were uneasy talking about how things were accomplished when they felt they would be quoted directly in print. Since many specific solutions to personality and budget problems need an elaborate context for complete understanding and are of little general interest, each person interviewed was assured that no direct quotation or institutional identification would be made.

This report is organized to serve three purposes. First, an abstract has been prepared for the general reader and the busy administrator with a desk already piled high with other documents. Secondly, Part I describes programs in a general way and is intended for faculty and administrators involved in a program at one institution who want to find out how other institutions are handling their educational development.

Third, Part II presents much of the detail and personal accounts of how programs were set up, directors hired, programs budgeted, and continuation of programs evaluated. This part is written for program directors and others who wish to know some detailed characteristics of various programs.

If the report fails to accomplish these purposes, the fault must rest with the questions asked and not the answers given. Everyone interviewed was most generous of his time and direct with answers given. Without such cooperation this task could have been dull and routine. Thanks to the many busy people who took time out to help with this study, the experience was most stimulating and rewarding.

INTRODUCTION

In November of 1966 Paul Miller observed, "Innovation as a university posture is mere discussion unless it ferments continuously within the faculty. Any discussion about change in university life usually ends on the question of how best to make contact with the faculty. And, unfortunately, we usually do no more than raise the question after going through a tortuous process to get to it. We remain quite unsure about the university as a phenomenon of structure. The university tradition is sacred--whether one lives in or out of it. We steadfastly refuse to use tools of analysis which are now commonplace in other settings.

We want to be orderly and rational about resource allocation, about faculty rewards, and about the evaluation results. However, we have inherited an ancient belief that, while the university as a whole must resolutely organize for its own protection, internal chaos somehow spawns strength. We seem to feel that haphazard activity safeguards competing points of view and that to organize learning is in the end to destroy it. We deny that the tenets of bureaucracy or the captains of erudition have any standing in the community of scholars, yet our universities provide an example of rigid compartmentalization. The first principle of diffusing innovation throughout the university is to become more forthright about what we say out of sacredness and what we do out of fact."[1]

Background

For the last two decades, our colleges and universities have been under stress from increasing enrollments, expanding knowledge, rising student expectations, and limited resources to meet the demands of society. In response to these pressures, several large universities have used management consultants while others have conducted internal self-studies to arrive at a plan for continuing self-renewal. By various means they have come to realize that, like industry, as they expand and diversify they must invest some of their own resources in institutional research and educational development designed to improve the quality of the teaching the

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[1]Paul A. Miller is the Assistant Secretary for Education, Department of Health, Education, and Welfare. His remarks on innovation were delivered at the National Conference for Curricular and Instructional Innovation for Large Colleges and Universities, Michigan State University, East Lansing, Michigan, November 10, 1966.

university does. Institutional research collects the basic data used to ask the critical questions. Educational development is the planned use of free floating dollars to support projects for seeking answers to the questions and improving the academic program of the university. If a formal unit is organized to establish policies and procedures for spending these funds, it is often called an educational development program.

The projects themselves are carried out by faculty members and may involve curricular change, course revision, modification of instructional procedures, study and review of university practices, or long-range planning for the institution. Projects are coordinated with the office of institutional research for general data collection and analysis, the university senate for curricular and policy revisions, the media agencies where technological innovations are involved, a testing service where examination improvement and test construction are required and with institutes or centers for special problems such as human learning.

Descriptions and abstracts of various projects of educational development are available generally.[2] However, detailed analysis of the administrative structure, operating procedures, and evaluation techniques are not available. It seems likely that, due to the parochial nature of each program, this information will not become readily available in the literature of higher education. Further, since most programs are now relatively flexible, it is hoped that the information reported here will be of use to those programs still in the formative stage.

Purpose

The purpose of this study is to describe and analyze the procedures which institutions use to accomplish their own research and development, the impact which such developments have on each institution, and implications which these programs have for higher education.

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[2]Abstracts are available from the Committee on Institutional Cooperation Panel on Research and Development of Instructional Resources. Copies of the abstracts may be obtained from Stanford C. Ericksen, Center for Research on Learning and Teaching, 1315 Hill Street, Ann Arbor, Michigan 48104. Over 100 project abstracts are included in Some Selected Materials From A Conference to Stimulate Research and Instructional Innovations in Large Colleges and Universities, directed by John E. Dietrich and sponsored by the U.S. Office of Education under Contract No. OEC3-6-062606-1049. These abstracts can be obtained from ERIC Document Resume, Department of Health, Education, and Welfare, Office of Education, Washington, D.C. 20202.

Basic Assumptions

The following basic assumptions for this study grew out of the Michigan State University Educational Development Program established in 1964.[3]

1. The directorate should be small. Any impression of an "empire" will inhibit faculty.

2. The director should be in a central position at the institution. He must be able to see faculty needs and know institutional resources.

3. Funds should be discretionary. The amount of money a director controls is not as significant as the amount of control he has of the money.

4. A grant procedure insures the best use of funds. Faculty and staff review will bring objectivity rather than subjectivity, logic rather than persuasion into funding decisions.

5. Experts should be available to consult on development. Most faculty are willing to seek advice of other faculty experts providing the advice is directly related to the needs of the specific project.

6. Coordination and evaluation of projects should be the continuing responsibility of the directorate. Faculty should be free to work on developments unhindered by the need to submit lengthy proposals or reports or to attend coordinating meetings.

7. Faculty need to know that successful projects will have continued university support. If projects are "innovations for innovations' sake" there will be little faculty interest in critical instructional and curricular areas.

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[3]For assumptions and details on the MSU Program see John E. Dietrich and F. Craig Johnson, "A Catalytic Agent for Innovation in Higher Education," Educational Record, Summer 1967, pp. 206-213.

METHODS

The method used in this study was to visit thirteen institutions and to conduct personal interviews with people involved in educational development programs. The outline used to structure the interviews is included as Appendix A of this report. This section provides details on the institutions visited, the people interviewed, and the programs discussed.

The institutions visited were selected using the criteria of limited time and resources, reasonable representation of various programs, and geographic distribution. The basic data collection had to be accomplished in a three month period. It was estimated that about a week at each institution would be required to visit faculty, students, and administrators involved with educational development without taxing the resources of the host institution unduly. This meant that twelve institutions could be visited during the summer months.

The Institutions Visited

Institutions selected needed to have either an established program, office or center with an identified director, or to be actively engaged in establishing a program and hiring a director. If the institution had sent a representative, usually their academic vice president, to the National Conference for Curricular and Instructional Innovations at Large Colleges and Universities held at Michigan State University in November 1966, this would be considered evidence of interest and support for establishing a program at that institution.

While many large colleges and universities are located in the Midwest, it was decided that results of this study would be more generalizable if several major geographic areas were represented. The country was then divided into New England, Middle East, Great Lakes, Plains, Southeast, Southwest, Rocky Mountain, and Far West using the U.S. Office of Education classification system.

The enrollments of the twelve institutions which were finally selected ranged from 14,319 to 38,245 resident enrollments on a single campus for fall term 1966. All were public institutions offering a Ph.D. degree in liberal arts and in general programs, and all contained three or more professional schools. The one institution which enrolled fewer than 15,000 students had projected that its enrollments would exceed 25,000 students during the next few years. One institution was actually a privately chartered university, but received its funds almost entirely from state appropriations. In most cases the selected institution was also the land-grant institution for the state, and many times it housed the central offices for the state system.

One institution was in a Mideastern state, three from the Great Lakes, one from the Plains, two from the Southeast, two from the Southwest, and three from the Far West.

The following list of institutions visited includes the fall term 1966 resident enrollment for each campus:*

The Pennsylvania State University - 22,493
The University of Michigan - 33,062
University of Minnesota - 38,245
University of Illinois - 29,120
The Florida State University - 14,319
Louisiana State University - 17,629
The University of Texas - 28,245
University of Arizona - 20,697
University of California, Berkeley,-26,963
University of Washington - 26,431
University of Hawaii - 20,854
Michigan State University - 38,107
State University of New York at Stony Brook - 3,952**

The People Interviewed

In all, 175 people were interviewed. (For a complete list see Appendix B.) There was a wide range of responsibilities represented and administrative titles differ somewhat from institution to institution. The president may have several chancellors under him at several campuses or a provost at one and chancellors at others. The subtitles of vice president, vice chancellor, assistant provost, etc. then become confusing to the outsider. Throughout this report one system of titles is used for sake of clarity. No one institution used this system, but all were roughly equivalent to it.

1. Board of trustees. This is the governing body which sits in plenary session and constitutes the corporate legal entity of the institution. At some institutions it is called the board of regents, board of overseers, or board of governors. For this report it also covers functions of state boards of regents which trustees normally perform.

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*Opening Fall Enrollments - Higher Education 1966, U.S. Office of Education (OE-54003-66) Washington; 1967.

**This institution was added and visited in the fall to gain some insights into the educational development plans of a new and growing institution.

2. The president. This is the executive officer responsible to the board for functions delegated to him. He may also be called chancellor. In this report the term president refers to the executive officer on a given campus and not the head of a system.

3. The academic vice president. This is the chief academic officer on a single campus. He may also be called provost, vice chancellor, or academic dean. He can serve as the man to whom deans report, or an advisor to the president. In either case, his concerns are with academic matters only.

4. The business vice president. This is the chief fiscal officer for a single campus. He may also be called the comptroller or vice chancellor. He may prepare all non-academic budgets and advise on academic budget procedures. Often he is treasurer of the board of trustees and may help with the presentation of the university budget to the legislature.

5. The deans. These are the chief advisors to the president on academic matters for a given college or school. Not included are deans of students, academic affairs, or graduate study. It is assumed that deans have department chairmen reporting to them and are responsible for all faculty and student actions taken in a given college.

6. Directors. These are persons assigned chief responsibility for educational development programs, offices of instructional resources and centers which serve the needs of an entire campus. He may also be called an assistant provost, assistant vice president, or assistant vice chancellor. He may be a staff member of the academic vice president or report to him for budgetary and general administrative purposes.

7. Supervisors. These are persons assigned chief responsibility for one technical service or support unit. They may be called a director or a coordinator. They have technical, clerical, and professional people under them and report to the director.

The total group of 175 can be divided into the following groups:

Staff members of the board of trustees or the president	13
Academic vice presidents	18
Deans	16

Department chairmen	12
Faculty	21
Students	30
Program directors	14
Supervisors	35
Institutional research	11
Registrar, admissions, planning, etc.	5

The Programs Discussed

Sixteen different kinds of programs existed at the thirteen institutions visited. While each had its unique aspect and some institutions had more than one kind, in general they could be classified into the following four groups.

1. Educational development programs (two institutions). This term is used in two ways in this report. First, it is used as the general term for all activities carried on by directors which use university general funds to help faculty find new ways of teaching. Secondly, the term is used specifically to refer to those programs with a one- or two-man staff assigned to the academic vice president to coordinate instructional improvement and curriculum revision.

2. Offices of instructional resources (four institutions). This designates a combination of agencies which generally offer the following services: course development, learning, audiovisual, television, and testing. The director coordinates these services and generally reports to the academic vice president.

3. Centers (three institutions). These agencies concentrate on one aspect of educational development for the whole university. The director reports directly to the academic vice president, but is not necessarily budgeted from that office.

4. Projects (seven institutions). These activities may be supported by any of the three kinds of programs described above. There may be a formal mechanism to apply for funds, or there may be a project fund with no formal program administered by the academic vice president advised by a committee.

FINDINGS AND ANALYSIS

The universities which were visited had faced certain problems and had established programs to help solve those problems. The programs had then been related to the university structure, had been given a particular form, and had been funded.

Evaluation of the programs by the university is a continuing process centering around certain key questions which each program tries to answer for itself and its projects.

The University Problems

It was originally hypothesized that the most critical problems facing these twelve universities would be: 1) limited resources, 2) increased enrollment, 3) faculty shortages, 4) explosion of knowledge, and 5) student demands for societal relevance. In order to test this hypothesis, the academic vice president and other members of central administration were asked whether or not these were the major problems facing the university or if there were some others which were more important. Since educational development programs are established to attack the major problems, the answers given by these administrators should provide the reader of this report with some perspective on the central problems facing these universities in the summer of 1967.

1. Limited resources. Seven universities did not consider this to be a major problem. While they did not have as much money as they would like, they all felt that they had been treated well by the legislature and probably better than most state agencies. In the five remaining schools where resources were a problem, it reflected a general fiscal condition in the state and not an anti-university attitude in the legislature.

2. Increased enrollments. This was a major problem for only two universities, and these were the relatively smaller institutions which anticipated a rapid but controlled growth to an enrollment of about 25,000 students. At the remaining institutions, the problem of student mix was probably more significant than an increase in numbers. At these institutions it was projected that there would be very little increase in the freshman and sophomore years and perhaps a decrease, that upper class would remain about the same, and that any increase would come in graduate enrollments. Some universities had prepared for this by a differential appropriation for various instructional levels. At one institution the student credit hour appropriation for graduate instruction was four times that of undergraduate instruction. At several other institutions this differential support policy has not been used and a more serious problem existed.

3. Faculty shortage. No academic vice president felt that faculty shortages would be a serious problem. While there would always be a shortage of top faculty in selected disciplines, most institutions felt that by virtue of salary, climate, or prestige of the institution they could attract most people they wanted and needed. Some institutions with a particularly desirable climate or high prestige had established elaborate procedures to screen the many faculty who applied.

4. Explosion of knowledge. No academic vice president felt this was a critical problem for his office. Some recognized the responsibility of colleges to accommodate this problem, but in general, central administrators were not directly involved.

5. Student demands for societal relevance. At only one institution did this remain a critical problem. Most vice presidents said that they had had their trouble with student protests and that many student complaints were legitimate. At the time of this study, mechanisms were being set up to provide students with representation and opportunities to voice their problems.

Several other problems were said to be more critical than those mentioned above. These problems included: 1) the urban campus and providing non-academic space for the commuter student, 2) the growth of graduate education and its impact on the undergraduate program, 3) the need for faculty to define the curriculum in terms of a major university in our society, 4) academic planning and its relationship to university budgeting procedures, 5) the interaction of the university with the state legislature and state politics in general, and 6) the development of a unique character for the university as it maintains quality.

Anyone looking at educational development on a specific campus needs first to understand the relative importance given to these issues. Otherwise, the special character of each program may not be very meaningful.

The Program Purposes and Priorities

In this report two approaches were used to try to determine how various institutions perceived the purposes of their various programs.

1. Purposes and titles. One approach was to get a written statement of the purpose from documents originally establishing the program, memoranda to faculty, or press releases to the public. This yielded statements which could be related to the titles which had been selected for various programs. In discussing purposes and program titles with directors and others who helped establish programs, it became clear that often the exact language of purposes or titles was written to be accepted by the university community and not always to give the clearest definition of the program function. Sometimes the word "education" was intentionally excluded because of the implication that the program would serve only the college of education. The relationship of the title to the function must be looked at in this light.

Two educational development programs which fit the definition used in this report had the following purposes and titles:

> To act as a catalytic agent for change is the purpose of an educational development program.
>
> To promote experimentation in all sectors of the campus is the purpose of a board of educational development.

Two offices of instructional resources had the following purposes and titles:

> To support the resident instruction activities of the university is the purpose of a university division of instructional services.
>
> To assist faculty in the increased use of newer techniques and media is the purpose of an office of instructional resources.

The third group includes centers which were established to coordinate all-university programs to serve and facilitate faculty-suggested solutions to problems. Some of the purposes of these centers were:

> To facilitate and coordinate studies and projects initiated by faculty members.
>
> To serve as consulting agencies to which faculty can turn for technical help, research, and financial assistance.

These programs were typically called the center for the study of: learning and teaching, curriculum studies, human learning, college instruction of science and mathematics, and programmed learning.

A final kind of program was essentially a fund to which faculty members apply for support of research or development projects. The purposes of these programs were:

> To improve instruction and/or course content and to recognize effective creative teaching.
>
> To provide opportunities for the development of knowledge and materials.

The titles of these programs included: university council for instruction, improvement of teaching committee, teaching improvement grants and curricular development program.

2. Priorities. The second approach to determining the purposes of the several programs was to provide each director with some stated purposes and ask him to provide a rank order for these purposes. The purposes and the rank orders can be found in Table 1. (The complete purpose statements can be found in Part III-A of Appendix A.) It seems clear that institutions or programs cannot meaningfully be ranked or categorized according to these purposes. This, probably more than anything else, reflected the fact that a program within a given institution might include several different approaches to educational development and that individual directors were responding from their special point of view.

The Program In the University Structure

To establish guidelines to locate a program within a university structure, the following questions were asked and responses obtained.

1. What is the working relationship with the academic vice president? All of the programs examined for this study report to the academic vice president. There was a very important distinction which could be made between those directors who were assistants to this chief academic officer and those who reported to him. The distinction lay in determining whether or not the program director was consulted on general university problems and policies beyond those associated with his program. Did, for example, the chief academic officer seek the advice of the program director when meeting problems like a student demonstration, the appointment of a new chairman or dean, or analysis of general university practices regarding admissions of out-of-state students?

Table 1

Rank Order of Purposes of
Two Educational Development Programs,
Two Offices of Instructional Resources,
Three Centers and Three Improvement Funds
Reported by the Directors Summer 1967

Purposes	EDP	OIR	Centers	Funds
To identify problems	1 5	6 3	4 1 2	3 1 3
To stimulate and conduct research	2 3	5 4	1 3 4	1 2 4
To improve undergraduate education	3 1	3 2	2 4 6	5 4 5
To provide service	4 2	1 5	3 6 3	2 5 1
To facilitate faculty administration solutions	5 4	2 1	5 2 1	4 6 2
To communicate research findings	6 6	4 6	6 5 5	6 3 6

The decision as to whether or not to give the program director broader responsibilities was most often based on the personality, background, and experience of the director and traditions of the institution. Those directors who had broader responsibilities found that they were more aware of instructional problems, but at the same time were able to devote less time and energy to implementing solutions.

2. What kind of an advisory group sets policy for the program? At one institution the program functioned as a formal board of the academic senate. The director was perceived as an executive officer for the board and carried out the activities as the board directed. At another institution the program director had no advisory board as such, but used various groupings of faculty and administrators to advise him on specific problems. Many other combinations existed. Sometimes a non-senate faculty committee was appointed particularly to review proposals. In other cases a faculty committee might be convened once a year to review the general direction of the program and suggest modifications. In no case did the advisory committee develop long-range plans nor did it concern itself with the day-to-day program operations.

One guideline that could be used to determine the need for a committee was related to the director's service on other university committees. If the director was an elected member on several key all-university faculty committees, there was less need for a separate advisory committee.

3. What are the line responsibilities of the director? In some institutions the program director was responsible for budgets of service operations like audiovisual services, television, testing, human learning, and course development. In this capacity, he was responsible for hiring personnel, developing policy for service, reviewing budgets, and generally coordinating activities in this area. In most cases, he had supervisors for each of these areas and in some instances these supervisors formed an executive committee.

At other institutions, especially those with greater emphasis on curricular development, the director had no line responsibilities. Somewhere in the middle existed those programs which concentrated on one or two services. The program director then was also director of this service.

The guideline here relates to how centralized services are on the particular campus. If television, audiovisual, testing, and course development were already centralized, it was generally true that the program director also directed these services.

4. What are the staff responsibilites? There were two classes of staff responsibilites related to a directorship. The first responsibility was to serve on university committees to which he was elected or appointed by the academic vice president. Often directors were originally selected because they were elected to key university committees as faculty members and continued to represent faculty points of view. Key university committees here are meant to include the curriculum committee, the educational policies committee, or the faculty affairs committee of the university senate. Other committee assignments within the university ranged widely to include the graduate committee, the library committee, the computer policy committee, or the university examinations committee. In a second kind of university committee assignment, the director represented the university in inter-university councils. EDUCOM is a typical example of such a council.

It is important to look at the director's staff assignments inside the university as opposed to those outside the institution. In some cases, directors have spent so much time outside the institution that their effectiveness inside has been diminished.

The Program Form

The exact program form which had evolved at each institution was unique. At the institutions described here, three general forms were observed and some basic characteristics noted. Several special problems associated with each form are discussed.

1. The educational development program. Typically, this kind of program was operated by a director and one assistant. The form of the program can be best described by examining the responsibilities of the director. The director was usually an assistant in the office of the academic vice president, and like his own assistant, was a member of the faculty. He was clearly associated with central administration, and at the same time, represented faculty opinion because of the role he played on one or more university committees. He was a working member of the academic vice president's staff and was concerned with many major university problems including budgets, admissions, and academic appointments.

The director was often given academic problems by the vice president or by faculty members who came to him before they presented problems formally to the vice president. In this role he has been described as an academic ombudsman since many times he was able to cut through administrative red tape and aid faculty members and department chairmen in solving special problems.

Although the range of his activities were relatively broad, he was not concerned with the internal affairs of a given department on the one hand, nor was he generally invited into high level policy decision making on the other. He had no direct relationship with any line operation, and although he may have been consulted on many matters, there were entire areas of the university of which he had no cognizance at all.

He had direct access to the discretionary funds in the academic budget ($250,000 to $1,000,000 per year) and used these resources to encourage innovations and develop faculty ideas on improvement of curriculum and instruction.

2. Offices of instructional resources. These offices tended to be combinations of various instructional media, testing services and some kind of curriculum development or learning service. The combined operations employed as many as one hundred people with a total budget of half a million to a million dollars a year. Most of the staff devoted its time to serving faculty instructional needs for showing of films, producing television, or machine grading examinations, while a relatively small portion of the staff was involved in planning of efficient use of media as well as analysis and preparation of examinations.

The director of this program was not likely to be a member of the staff of the academic vice president. He prepared and submitted his budget like any other service organization and reported to the office of the academic vice president. This program was characterized by the service it provided to the entire university.

The people providing this service were skilled and dedicated technicians and typically did not hold academic rank and were not in the tenure pattern. This presented the director with a particular problem in coordinating his service functions. With the exception of a learning service director or course developer, there were very few people on the staff who were comfortable in defining problems in instructional terms. Given an instructional plan, they were able to implement, but it was not always possible for a person scoring examinations in the testing center to see much relationship between his task and the people who were preparing graphics in the audiovisual shop. The director needed to coordinate the several efforts of his operation and relate them to the problems of media, testing, learning, and curriculum development.

While this director may have been consulted on all-university problems as they relate to instructional resources, he was not likely, in this role, to be consulted on line and budget procedures not directly affecting his unit. Neither would he have direct access to the discretionary funds in the academic budget.

3. Research centers. Directors of these programs were generally highly skilled and experienced in one aspect of instructional resources. A psychologist, for example, may have developed a special interest in programmed learning or computer assisted instruction. A center was established to enable him to help other faculty members with their problems of learning and teaching. One or two centers started as science curriculum centers and subsequently began to explore broader issues of curriculum development. None of these centers, however, were concerned with development of media across the university nor were any directors on the staff of the academic vice president.

The people working for the director were generally half- or quarter-time appointments. They were tenured staff, for instance in psychology, but joint appointments were also typical in departments of foreign languages, English, or engineering. These people from the non-psychology disciplines generally held their appointments to work on a specific project for a year or two and then returned to their disciplines. Almost all of the personnel had Ph.D.'s and academic rank. Publication was found to be a very important responsibility for faculty working in these centers because their promotion depended in a large part on scholarly productivity rather than on the service they provided. The staff, therefore, was given considerable freedom in selecting the projects with which they wanted to get involved. If the staff member did not see a problem area related to his own research interests, he was under no obligation to work on it.

The advantage of a center like this is that it can do an in-depth study of a particular problem. It does not cost the university as much money and it has high status among faculty members.

The disadvantages are that it tends to operate "outside the gates" of the university and has a very difficult time coordinating a project which involves media, course development, testing, and learning.

Directors of these centers do not necessarily have to be established members of the faculty with long and distinguished service on key university committees. It is unlikely that this director will be consulted on any general university policy unrelated to his activity and will not have as direct an access to the discretionary funds of the academic budget.

The Project Funds

The source of project funds was not the same for any two institutions studied. In some cases, a general discretionary fund was authorized for the president and other administrative officers. At other institutions a fixed percentage of the total appropriation was unallocated at the beginning of the year so that contingencies could be met. Some institutions were able to use the funds from unfilled salary positions to meet a variety of institutional needs. In some cases, institutional allotments from research and fellowship programs were available. A percentage of the overhead from external support sources might be used. Some institutions, for example those which were heavily endowed, had more flexibility in their funding procedures. And finally, from time to time a special grant might be received by the university from an individual or corporation for the purpose of improving instruction. Sometimes an institution received support from a local foundation which had been particularly generous in supporting special programs.

Depending upon the source of funds and university policies relating to the expenditure of these funds and the control imposed by the board and the legislature, the programs had varying kinds of flexibility in their granting programs. (For a breakdown of projects by departments see Appendix C.) Often, this was reflected in specific granting procedures. Some institutions required a rather elaborate and formal proposal while others required merely a letter or memorandum to record the transfer of funds. Some institutions operated with deadlines while others accepted applications all year round. Some proposals were acted upon formally by a committee while others were reviewed by the director, perhaps in consultation with his staff.

As in most other aspects of this study, it is difficult to say which procedures are best because so much depends upon the standard operating procedures of a given institution. Table 2 presents the various patterns of granting procedures and the amounts involved.

The Evaluation of the Programs and the Projects

Perhaps the most critical aspect of an educational development program is the evaluation of individual projects and overall program effectiveness. In research centers it was fairly clear that much activity was comprised of carefully designed research projects with evaluation schemes which follow established methodology of psychology or related disciplines. Many of these studies were conducted to add additional data to the literature of a discipline and evaluation techniques were standardized.

Table 2

Awards Made 1966-67

Program	Number of Projects	Total Amount	Application		Deadline		Review	
			Letter	Form	Yes	No	In House	Committee
1	41	$136,616	X			X	X	
2	29	75,936		X	X			X
3	15	24,000		X	X			X
4	16	14,430		X	X		X	
5	6	11,400	X		X			X
6	12	11,200	X			X	X	
7	21	5,137		X	X			X

These standard techniques were not always helpful when they were applied to broader instructional development problems. Many controlled experiments using data on various instructional methods found no significant difference in amounts students learned. Two approaches have been used to get significant differences. One was to refine and narrow the research procedures while the other sought to broaden and extend the type of evaluation used.

Among the institutions studied, several evaluative techniques beyond the amount-learned measure have been used. Some programs insisted that some kind of evaluation be employed before the project is initially funded. A broad range of evaluative techniques was allowed depending on the nature of the issue being studied. The following represents questions most often raised about programs and projects which might serve as a useful guide to broader evaluation.

1. How do the students feel about it? Quite often the difference in amount-learned measures did not give a clear picture of what the student had to endure to learn whatever he did. A poorly organized and time-consuming technique may be a sufficient irritant to the student that, although he may do well in the course examinations, he is discouraged from taking additional courses in the field or perhaps from selecting it as a major. Some faculty members wished to use a student's attitude toward the subject matter of the course as a way of evaluating a new technique. Some experimental and control conditions were possible using the dependent variable of attitude and produced some illuminating results.

2. What do other faculty think about it? In some projects, particularly audio-tutorial laboratories, an evaluation was made as to whether or not it seemed to be a better way to teach in the laboratory as judged by colleagues in the same or other departments. It was found difficult to evaluate the success of laboratory experiences under the best of conditions. The stipulation that amount learned was the only way to evaluate a new technique was thought to be unrealistic.

One criterion for success was whether or not a department was sufficiently convinced by a given demonstration to incorporate the new technique into its on-going teaching practices. This acceptance might depend upon such issues as a better and more consistent presentation of material by laboratory assistants, more time for the students to discuss the implications of the experiment, or more time for the professor to discuss highly specialized problems with the teaching assistants or students.

3. Will anyone use it? Specific projects or programs have been evaluated in terms of the number of faculty or students who use services for one purpose or another. This has been a routine procedure for many years in libraries and audiovisual film units. The same kind of measures were applied to the number of faculty who availed themselves of test construction, item analysis, and course development services compared with the number of people who merely have their tests scored. It may be useful to look at which departments are using the services and for which level of student. If the use is restricted to one or two colleges, the question may come up as to whether this should be an all-university service.

4. Can others benefit from it? In much research the generalization of results is thought of as a sampling and methodology problem. In many of the studies examined in this report, the question was asked, "Can the technique developed in one department be transferred to another department without too many complications?" For example, can the use of closed circuit television for observing surgical techniques be applied to the first course in anatomy? Does the small group tutorial for teaching English composition work equally well for evaluating performances of special students or musicians or artists?

Projects which involve techniques that can be used by only one discipline to teach one course might not be as beneficial to the university as those which have a broader application across the institution. The development costs can be reduced if new projects can build on the experience of older ones.

5. Will this help solve a university problem? Perhaps one of the most difficult problems of evaluating an all-university program is the definition of instructional problems. Universities, quite different from disciplines, have instructional problems which cannot be solved by any individual department and often individual departments are unaware of these problems. Perhaps the best example is the large service course and the question of how much of university resources ought to go into this instruction. University allocations of resources are based on the number of students taught in a given department. The largest number of students is often enrolled in the large mass lecture survey course while most resources go into graduate research and major courses. The institution must develope course models which will provide the best education within the scope of its restricted resources. Many times projects were funded to help find solutions to these kinds of problems. It was found that cost analysis, evaluation of instructional objectives, patterns of student registration, and analysis of instructional work loads provides some useful insights into the problems.

6. How much will it cost? Projects often addressed themselves to problems of effectiveness and did not consider measures of efficiency. While no one argued that evaluation of education ought to be restricted to cost effectiveness, many programs found that cost data could be collected and analyzed meaningfully to evaluate instruction projects. This was particularly true in projects associated with the use of teaching assistants. Departments have found that much time, effort, and money goes into the grading of examinations by teaching assistants. Projects which were designed to shift the role of the teaching assistant from one of exam-grader to one of item-writer and student counsellor often showed a savings and a more efficient use of resources.

Other measures here include classroom space utilization, faculty man hours, use of expendable materials (chemicals) or more efficient use of personnel at various levels (professorial, clerical, staff, etc.)

In general, those projects which tried to establish a broader base of evaluation were better able to respond to the questions most often asked by people responsible for resource allocation.

CONCLUSIONS

At the beginning of this report seven assumptions were stated. The conclusions based on the finds of this study are presented below.

1. The directorate should be small. No program had more than one director and an assistant. Programs that included media, testing, curriculum development or learning services were line operations and not considered to be a functional part of the chief academic officer's staff. Where an individual director was given both line and staff responsibilities, a clear distinction was made.

2. The director should be in a central position at the institution. All directors reported directly to the chief academic officer. Some directors held elected and/or appointed positions on key university committees, some were key members of the central administration staff, some served on key legislative committees as consultants, and to varying degrees, all had an opportunity to sense all-university problems.

3. Funds should be discretionary. All institutions have discretionary funds available to the chief academic officer. At seven institutions some of these funds were made available to the faculty through the director and the program. At the remaining institutions, the directors could apply for additional funds on a contingency basis and in competition with all other campus units. Most directors felt they had enough money to fund worthwhile and well-thought-out projects.

4. A grant procedure insures the best use of funds. Seven institutions had total funds of $278,719 and supported 140 projects during the 1966-67 academic year. Of these, four had formal application procedures, five had deadlines, and four used a committee review procedure. All directors agreed that the grants had been a key stimulus for the development of new ideas. There were two different points of view on whether or not faculty should feel they were competing with each other for institutional funds, some found competition important while others did not.

5. Experts should be available to consult on development. Directors tended to agree on this, and most programs had identified experts who worked with faculty. In discussion with this faculty, it was not always clear that they felt they had worked much with these experts. Most faculty felt they had done the work and solved problems by themselves. Often, they were not aware that experts were available to help them if they needed it.

6. Coordination and evaluation of projects should be the continuing responsibility of the directorate. All directors agreed that this was a vital function and admitted that it was the most difficult, and as yet, weakest part of their operations. This weakness has not gone unnoticed by the chief academic officer, deans, and faculty. Some programs have evaluation offices assigned to them, but with a few exceptions, the major work of these offices was the scoring of examinations. Evaluation was perhaps most rigorous in formal research projects and least apparent in course improvement projects.

7. Faculty need to know that successful projects will receive continued university support. Most faculty project directors were satisfied with support from the administration and were satisfied that it would continue. Support from their colleges was not as easy to get. Many faculty members working on new ways of doing things were neither being prevented from innovating, nor did they feel they were being rewarded or recognized by their peers. Some of this feeling may have stemmed from a higher faculty priority on research in the discipline, but this varied from department to department and institution to institution.

Summary

In general, it can be concluded that educational development is going on in large colleges and universities and that it will continue to have administrative support. The impact of these programs is in evidence, but better evaluation needs to be used to demonstrate this impact. The basic characteristics of these programs seem to hold from one institution to another and should transfer to other institutions. It must be emphasized, however, that no two programs are organized exactly alike and that individual differences within institutions must be carefully taken into account in establishing a program.

The future of these programs depends upon their ability to demonstrate conspicuous results. Perhaps it is necessary to seek help from the national foundations and federal agencies to develop meaningful evaluation procedures.

Smaller institutions setting up programs of the kind described here may need to turn to government or national foundations for support to seed initial development.

EDITORIAL NOTE

All data were collected for this study by a single observer. While structured interview schedules, demographic data on directors, and budget information on project funds did provide some objective data, all other information has been "filtered" through that single observer. The advantage of this method is that one person was able to observe differences and similarities among all institutions. Several readers of the drafts of this report have asked, "What conclusions did you come to, based on your conversations, that do not directly relate to your basic assumptions?"

In an attempt to answer that question this editorial note has been added. The reader of Part I can look upon these impressions as the author's personal set of conclusions. Those readers going on will find the impressions an informal introduction to Part II.

The personal conclusions I've come to about educational development are as follows:

1. Educational development is accomplished using a wide variety of administrative styles based on direct experiences with faculty and middle management. Successful programs follow institutional traditions and depend upon the director's ability to adapt creative ideas to the unique characteristics of his institution. In this sense, much of his work is "political" rather than "academic."

2. Change is accomplished most easily under conditions of stress and within the established administrative patterns. Most successful programs are administered by directors who can provide resources quickly when faculty need and ask for help. Less successful programs select only problems which are compatible with solutions previously developed "on speculation."

3. The budget-making process provides an important communication channel. Many administrative practices do not seem rational until budgetary implications have been explained. Educational development programs are not in the academic line budget and need to build a communication channel to keep informed about university problems.

4. Academic vice presidents are central to educational development. In general, these men make more academic decisions than did their predecessors. Perhaps a study of their expanding role would yield more insight into educational development than would additional study of the programs themselves. Evaluation of programs and their ability to help solve important university problems rests with academic vice presidents.

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PART II

PREFACE

The first part of this report presented information gathered using structured interviews and some questionnaires directed at the basic assumptions of this study. Part II contains some additional detailed data, but also includes some subjective impressions gathered from the interviews. When an impression was sharpened by something specific a respondent said, it appears as a quotation, usually at the beginning of a section.

The general atmosphere and attitudes of people created impressions which helped to clarify specific conditions, but these were virtually impossible to communicate. Many of these impressions might fit better into a popular, rather than scholarly, publication. One example of this kind of impression was particularly vivid, and special permission was obtained to use it.

The University of Washington stands in Gothic splendor on a central axis oriented toward Mount Rainier. Over the main entrance to the Administration Building in independently cut one-half inch thick Gothic letters is the motto "The University of a Thousand Years." Behind it in one small windowpane is a yellow and black cardboard sign which reads "Fallout Shelter - Capacity 740." A more eloquent comment on universities in our times was not encountered.

Part II, then, reports a mixture of conventional wisdom and specific experiences on which program directors rely to make decisions when alternatives are not specific and choices unclear.

ORGANIZATIONAL CHART

"I keep some organizational charts here in my drawer for visitors, but don't show it to anyone on campus or tell them where you got it. If you do, I will deny having anything to do with it."

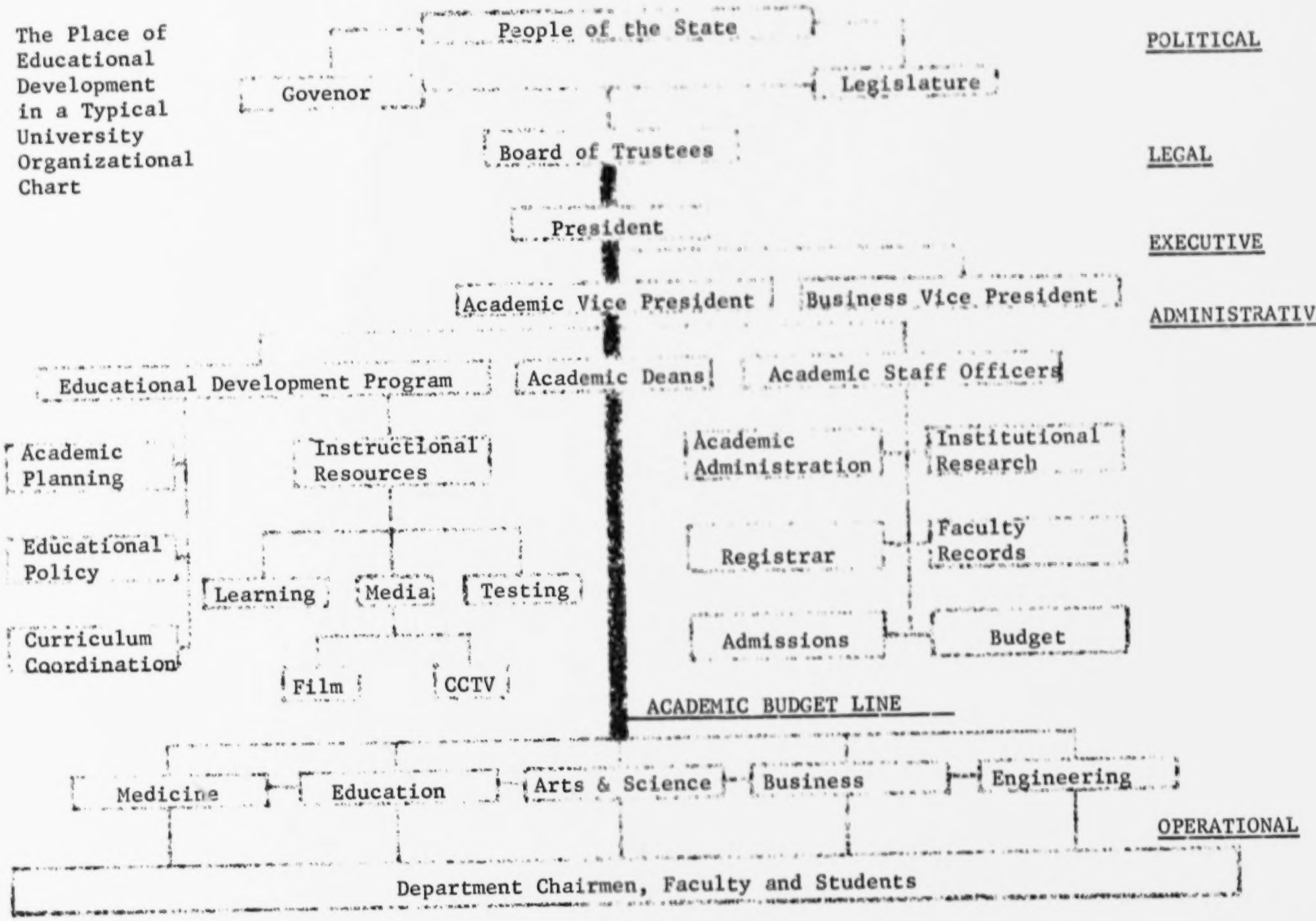
- Assistant to the President

The following organizational chart is included to help the reader of this report with the titles and offices used in Part II. Its main function is definitional and is not intended to diagram a formal hierarchy or establish relationships. It would be misleading to suggest that the organization of the universities studied was a formal one typical of the military or some industries. Their organization was more horizontal, less formal, and could be characterized as an emergent one. They operated not by a series of carefully established and rigid procedures, but rather by heuristics or "rules of thumb" which were applied to many situations and worked out most of the time.

The authority structure was limited by the by-laws which specifically excluded such areas as curriculum, origination of promotion and tenure actions from administrative control. Universities used their most rigid procedures to deal with budgets, contracting, and physical plant problems.

The following chart, then, is presented to illustrate where the educational development program was likely to operate in this informal structure and what its possible relationships were to other administrative offices.

The Place of Educational Development in a Typical University Organizational Chart



ESTABLISHING A PROGRAM

"New things must be accomplished in the old ways."
- Program Director

General Considerations

Almost all programs could trace their origin back to the work of a faculty study committee charged with the responsibility for establishing a long-range (five year) plan for the institution. In the committee discussions of instruction and curriculum, the faculty became concerned about two problems.

The first was the proliferation of administrative agencies to handle technical innovations in instructional methods. Most universities have established audiovisual offices and television offices. The question then arose, "Should an office be established for programmed learning, another one for computer-assisted instruction, another one for simulation?", or "Supposing some new technology doesn't work out, then how does the university get rid of such an office with the accompanying administrative staff?"

The second question the committee considered related to the procedures of curriculum revision. In some cases it was extremely difficult to modify the existing curriculum, while in others it was difficult to get faculty to think very much about broader implications of curriculum for the university as a whole. There was also concern for increased specialization of professional programs and the need to preserve the liberal elements of the curriculum. Most curriculum committees did not originally provide for student representation in discussions of these academic matters.

After the faculty study committee had raised these two issues, several recommendations were made.

The issue of combined or separate offices of instructional materials was most often resolved using the general institutional experience with other combined services as a guide. Those institutions which tended to have central planning offices and a heavy undergraduate commitment tended to combine the media resources. Other institutions chose to continue competition among separate media agencies and take advantage of individual initiative. These insitutions tended to have a heavier graduate and research responsibility.

Curricular issues were not resolved in these documents, but a more efficient machinery was suggested. Some new position was created and the person appointed to it was charged with the responsibility of coordinating curriculum innovations and improving the existing system.

After the faculty study group made its recommendations, the document then was usually approved by the faculty senate and sent to the president and trustees. Where there was very strong faculty support for the recommendations, the president and trustees usually had little difficulty in accepting the recommendation and referred the implementation to the academic vice president.

The academic vice president then made a series of administrative decisions. The recommendations cost money to implement and this usually meant expenditure of his discretionary funds. He needed to commit some funds to hire a director and clerical support. This has meant an expenditure of around thirty-five thousand dollars.

In addition, he provided a fund for faculty projects. Sometimes he did not wish to provide actual money to the director but reserved a portion of his own discretionary funds for these projects. This could mean a priority commitment of up to another hundred thousand dollars.

He then considered the place the program was to have in the university administrative structure. It may not have been wise to have the program identified with any one college which could weaken its ability to operate across the university. Most generally, programs became a part of the office of the academic vice president.

Next a working relationship was developed between the new program and the other functions of the academic vice president. This relationship was related to the personalities involved and the character the program took as it emerged.

Finally, consideration needed to be given to an advisory group associated with the program. This decision was related to the kinds of advisory groups similar organizations had within the institution. For example, if all-university faculty support was needed before any action could be taken, there would probably be established an all-university faculty committee of the academic senate. If, on the other hand, it was the style of the institution for consultation to be on an ad-hoc basis, the advisory committee was less formal.

Specific Examples

While the specific circumstances surrounding the establishing of a faculty study group varied, the actual recommendation of purpose and function looked something like the following taken from faculty committee reports.

> "To stimulate and promote experimentation in all sectors of the campus, and to support innovation wherever it is needed; to sponsor, conduct, and direct, with the use of an office of educational development, continuing studies of the needs and opportunity for educational development; and to maintain liaison with the Committee on Courses of Instruction, Committee on Educational Policy, Graduate Council, and the executive committees of the colleges and schools on matters of educational effectiveness, innovation, and for the initiation of experimental courses, programs and curricula."

> "The major function of the Center (for educational development) is that of providing facilitation and coordination for the studies and projects initiated by university faculty members or groups of faculty members which are aimed at a) improving undergraduate education, or b) education in the elementary and secondary schools."

The committee recommended two main objectives:

> "1. That the University create a Center on University Teaching with the broad aim of providing maximum assistance to the faculty of the University in the task of providing effective instruction of the highest quality; and

> 2. That it be of prime importance that the Center be created at the outset as an institution devoted to the encouragement of educational excellence."

SELECTING THE DIRECTOR

"You can either bring a man up from inside or lose five years."

- Academic Vice President

General Considerations

The selection of the director was considered to be the single most important decision in establishing an educational development program. By and large, program directors were selected from the university faculty based on their work on university committees. The subject matter competence of the director was not particularly relevant, although he needed to be sufficiently competent within his own discipline so that faculty respected him as a colleague. Quite often the director had been a department chairman and had first-hand experience with the administrative mechanics of the institution.

In addition to this experience, the director was required to be sensitive to the political forces of the university. His work as an elected member to key university committees helped him to understand faculty problems. The director was expected to maintain working relationships in central administration, and at the same time, maintain a faculty identity.

There were also some personal considerations. While the directors held academic rank in an academic department, it was doubtful that as much teaching or creative research could be accomplished by him due to his responsibilities for a fully implemented program. The longer he remained a director the less contact he found he had with the problems faculty face daily. While this may have been true for all faculty who went into administration, it was of special importance for directors as they tried to solve instructional and curricular problems with the faculty.

The director was expected to establish an award program and receive applications from various faculty members. His ability to make awards to faculty who were likely to produce results depended to some degree on how well he knew faculty problems and understood implications of possible solutions. Directors interviewed in this study placed a relatively high priority on stimulating development projects in undergraduate education and a lower priority on the identification and communication of progress in research. This action orientation reflected his desire to accomplish results at his own institution rather than to contribute to the research literature on higher education in general.

Specific Examples

> "The style for those going into administration is to tell everyone that they don't want to do it. Then, kicking and screaming, they accept the burden. This is a necessary procedure since faculty don't trust anyone who wants to be an administrator, and the only possible reason they can see for wanting to give up faculty status would be for personal power which is to them repugnant."
>
> - Dean

Since there is no attempt in this report to describe any one program in detail, but rather to acquaint the reader with the kinds of people and policies around the country which make up these several programs, the following describes fourteen people who, in one way or another, are actively engaged in directing educational development. This activity may include people who have full-time responsibility for a program as well as others who administer a project fund.

1. Vital statistics. Twelve of the fourteen men were full professors, one an associate professor, and one held the title of research associate. They had a range in number of years of teaching experience from five to twenty-three years with an average of nine years. They have been in administration from two to twelve years with an average of six. They ranged in age from 37 to 56 with an average age of 46. The typical director then was a full professor, 46 years old who had taught for nine years and spent six years in administration.

2. Research interests. Of the fourteen people, five had a background in psychology, and other backgrounds are distributed among fields of chemistry, economics, physics, political science, sociology, and speech. Research interests included such varied specialties as 1) structure and kinetic behavior of solutions, 2) rule and effect of the economic corporation administration of counterpart funds, 3) revolution in industry and family: application of theory to the British cotton textile industry 1770 to 1840, and 4) applying learning theory to televised instruction.

3. Services outside the university. Directors of these programs have served in a variety of consulting roles to the U.S. Office of Education, the Ford Foundation, and a wide variety of state commissions and agencies.

4. Honors and scholarships. While administrators were not normally expected to continue to be active in research and to publish, it is fair to say that the publication lists of these directors is probably at least comparable to other faculty members holding equivalent ranks at the institution. Many are distinguished for their research prior to becoming directors and half are former department chairmen.

5. University committees and responsibilities. The activity on key university committees was probably the most critical credential a director brought to his job. All fourteen men have played key roles on major university committees. These included the educational policies committee, the curriculum committee, and the budget committee for both the university and the state legislature. In most cases, the directors were elected to these committees by the faculty before becoming a director. In addition to these kinds of responsibilities, directors were frequently appointed by the academic vice president to a wide variety of university and extra-mural committees at which he represented the academic administration of the university.

BUDGETING

"Since I have opened up my budget to all of the university and explained why different units got what they did, people have begun to listen to what I have to say."

- Academic Vice President

General Considerations

While it was not the purpose of this report to discuss general patterns or practices of university administration, it became necessary to look at various patterns of budgeting in detail. There were two reasons for this. First, the academic vice president dealt basically with resource allocations problems in the university. The ability of a director to understand financial implications and line-budget procedures was essential as he tried to communicate his program to the vice president. The second reason was that educational development programs, for the most part, operated on discretionary funds which were not a specific part of the budget. Unless he was close to the budget decision process, it was possible for his program funds to be used for other purposes.

There were many similarities in the budgeting procedures of the institutions studied for this project. Faculty members made requests of the department chairmen who forwarded the budget to the dean and ultimately a budget was presented by the president to the trustees for approval. Funds were provided by tuitions, legislative appropriations, endowments, etc. Areas of greatest difference occurred in the internal procedures involving the academic vice president and particularly the relationship of the deans, the academic vice president, the business vice president, and the president. Since this report was concerned with a program financed by the office of the academic vice president, several specific budgeting procedures are described from his point of view.

Specific Examples

There were at least six different arrangements which were worked out in the twelve institutions visited.

1. The academic vice president did not know what the university budgets were until they appeared in printed form approved by the legislature. Other vice presidents served as consultants to the president, but by and large, the deans dealt directly with the president on all budgetary matters. The academic vice president in this case had no funds with the exception of a small budget for his own personal staff. If educational development programs were to be established at this kind of an institution, the discretionary funds of the president would have to be used and projects would compete with other institutional demands.

2. The academic vice president sat with the president and the deans during the budget negotiations. From time to time he was able to suggest modifications or express his opinion on new programs or proposals. In this case, the academic vice president met with deans regularly to discuss academic programs and had the opportunity to work with the deans to establish budget priorities. This vice president had a discretionary fund which he used for the academic program, and in fact, supported educational development projects.

3. The academic vice president prepared the academic budget with the deans and then presented it to the business vice president who in turn prepared the final budget for the board of trustees. While the academic vice president worked more closely with deans than in the above two cases, he still was not involved in final negotiations and decisions. In this case, the academic vice president was able to commit a given percentage of the total university budget to educational development and has done so. These discretionary funds were administered by him without additional control by the business vice president.

4. The academic budget was developed by the academic vice president with the deans. The business vice president developed the budget for the non-academic units. Both budgets were presented to the president who made final decisions and then submitted the budget to the board. In this case, the academic vice president completely controlled the academic budget and made his decisions without consideration of competing requests from non-academic programs. In this case also, the academic vice president had committed a given percent of the academic budget to educational development and had complete responsibility for administering his own discretionary funds.

5. The academic vice president was responsible for developing the budgets from all academic and non-academic units. The business vice president presented his budget to the academic vice president. While this gave the academic vice president greater responsibility in the budget-making process, it also meant that academic requests

competed directly with non-academic requests. While the academic vice president had the greatest discretionary powers, he also had requests from the entire university. This academic vice president, under these conditions, has eliminated all discretionary funds and operated every agency on a line budget. In this case also, the academic vice president prepared the entire university budget himself and negotiated directly with each dean. Educational development projects had to be funded in the colleges and departments.

6. The academic vice president prepared the budgets not only for the entire university but also for three other universities in the state system. The deans from all universities presented their budgets to this vice president, and he, in turn, presented them to the president and the board. While this vice president held some discretionary funds, he needed to make decisions on whether they ought to be used for a specific project at a given university or an entirely different kind of project at an entirely different kind of university.

At almost all the institutions budgets were prepared in terms of new dollars. If the department of physics had a position approved for a full professor, it would, in all likelihood, hold that position from year to year. The negotiations with the vice presidents were in terms of adding a new position, equipment, supplies and services to the already existing and established budgets.

Many institutions were exploring program budgeting on their own for internal control or had been requested to do so by the legislature. Without going into the details and intricacies of these new budget procedures, it is important for the director of an educational development program to realize that the more explicit a budget is when it is presented to the legislature, the less opportunity there is to hold discretionary funds.

WORKING WITH FACULTY

"If a young faculty member who, five years ago, had given up important research activities to work on curriculum planning or undergraduate teaching came to me for help on an overdue promotion, the best help I could give him would be to tell him that five years ago he made a very serious mistake."

- Academic Vice President

There is very little data to support the theory that one way of working with faculty has advantages over another. Such data will accumulate slowly since almost all faculty projects are directed toward the solution of a particular problem at a given institution. While some of the results of the project, or even some of the materials produced, may be shared by others, it is unlikely that any characteristics of the working relationship between educational development programs and faculty will transfer. There are, however, some general approaches which various programs are using relating to: 1) general philosophies, 2) selection of projects to support, and 3) areas of cooperation.

General Philosophies

"You tell those people in audiovisual that if they're going to work with my faculty not to put too much frosting on the cake."

- Department Chairman

There were at least three general philosophies which program directors have expressed. Two or three of these approaches may have been used simultaneously to try to accomplish various tasks.

1. The systems approach. This approach was characterized by an attempt to look at the total university as a system and to identify the many components of the system and their functions.

Advantages: This approach was most likely to yield coordinated efforts on significant problems for the institution. Considerations were given to growing enrollment, student demands for societal relevance, the limited resources of the institution, capacities, and expectations represented by the faculty. Often, models were generated and impacts of various decisions were simulated. This proved helpful to the director in relating his program to the rest of the institution and was viewed sympathetically by his supervisors.

Dangers: Faculty members were uncomfortable with the formal system into which they were expected to fit their problems. The faculty members' concerns were not so much institution oriented, but rather discipline and content oriented. Using this general approach, it has been important to insist that faculty not become directly involved in a complex system analysis procedure which they find is only tangentially related to their needs.

2. The service approach. This was characterized by the development of the best and most efficient learning, media, and evaluation services designed to help faculty solve problems. Someone was assigned to contact faculty members and encourage use of services.

Advantages: This approach was closely tailored to those things which faculty found useful. Services were generally explained in sufficient detail and related to specific faculty problems so that interest and motivation was high. Generally, personal contacts and testimony were used to interest other faculty in availing themselves of this service. As the "buyer" of the service, the faculty member felt that he was in control and that he could use as much or as little of this service as he wished. Administrators generally liked this approach since it assured that the requests for resources would, in some way, be tied to faculty needs.

Dangers: Some programs have had unfortunate experiences with supervisors who try to oversell a service and have left faculty members disappointed and unwilling to try other techniques. Occasionally, the person assigned to work with faculty became so committed to one particular medium, e.g. CCTV, that he was unwilling to suggest another which might have worked more effectively and efficiently. In short, the message became the media.

3. The professional approach. This approach was characterized by a specialist who set up an office and then waited for faculty to come to him. Notices and descriptions of the service were sent out in various brochures and campus mailings, and then when faculty inquired, services were provided.

Advantages: This approach caused the least irritation to the faculty. Any faculty member who came in had an equal claim on the resources available and had full control over how involved he wished to become and to what degree. This is the approach which did not cause the administration much concern about a rupture in faculty-administration relationships.

Dangers: Few faculty used the service. Also, it was extremely difficult to evaluate the effectiveness of the program or to determine the direction in which it should grow. It was difficult for an administrator to know whether the particular direction this service was taking was in the best interests of the university as a whole.

Selection of Projects to Support

> "The administration is very happy that I am trying new ways of teaching and they cuddle me quite a bit, but they have been unable to increase my salary or to promote me."
>
> - Faculty Member

Depending upon which general philosophy or approach was used, the director had more or less control over which faculty projects he wished to work with. There were no hard or fast rules, but only some general observations that have come from the directors of various programs.

The most successful projects tended to be those directed by the older, respected, and prestigious members of departments. There were several reasons given for this. First, these faculty members had established their national reputations, had tenure, were not threatened by pressure from their colleagues who felt their innovational teaching was not high priority for the discipline. Many project directors had children in college who were being exposed to some rather bad instruction.

Secondly, projects were most successful when faculty members could be released from their regular departmental responsibilities to devote a significant portion of time to the project. Good creative ideas often were undeveloped because a low priority for this activity had been established.

In general, projects had the best chance of success when sufficient clerical and technical support was provided to faculty. The director usually needed to make this decision. Many times, the success of a program rested on the director's ability to select projects which had a high potential for success.

Specific Areas of Cooperation

> "Getting involved with educational development is like accepting a speaking engagement at Cornell. I very much enjoy being at Cornell and the best and quickest way to get there is to fly. I don't like to fly and as I'm bouncing around up there, I must keep telling myself, 'If you want to get there, this is the way you have to go.' "
>
> - Faculty Member

The program directors found they could be helpful in four major areas. The first and broadest was curriculum revision. Many times a department wished to reexamine its curriculum but did not have the time, resources or data to do the task as thoroughly as they desired. Projects which supported faculty and provided necessary technical and clerical staff were often most meaningful for a department. The director himself, based on his experience with key university curriculum and policy committees, found he could be helpful in assisting the department with expediting changes they wished made. Also, his special relationship with the faculty and the administration provided a helpful perspective.

A second area was analysis of the objectives of the curriculum or a particular course. Here, an expert was often required. The expert needed to understand human learning and associated psychological problems to establish credibility with the faculty. He also needed sufficient understanding of the practical problems of instruction to suggest appropriate solutions. He needed to work with faculty at every stage of course development and to evaluate the learning potential of several approaches or techniques.

A third area was instructional media wherein faculty members were not generally aware of materials available or advantages or disadvantages of particular instruments. A major function which was provided here was an analysis of the materials and instruments. Suggestions were made as to which new materials needed to be developed. The advantages and disadvantages were explained so faculty could estimate the gain and loss for each alternative.

Finally, there was the area of evaluation beyond scoring multiple choice examinations. Faculty members were not generally aware of item analysis techniques or test construction which might have been particularly useful to them as they worked to improve their instruction. Sometimes a total evaluation scheme for a course or project was developed which saved the faculty member much time so he could direct his efforts into more creative channels.

CONTINUED SUPPORT FOR THE PROGRAM

> "While they talk a great deal about evaluation for others, the educational development program has not provided me with an evaluation of itself or a method of having it evaluated by others. Until it does, they will not get a single new dollar from me."
>
> - Academic Vice President

General Considerations

Two areas of support were found to be vital to the future of educational development programs. The first was support of the ideas, directions, and general agreement with what the program is trying to accomplish. This support was expressed by university committees or advisory boards on the one hand and the line operations, including the deans and department chairmen, on the other. University committees asked periodically whether or not the program was continuing to follow its original design and to evaluate additional activities in light of the best interests of the university. The deans and department chairmen often asked whether or not the resources going into innovations might not be better used for supporting those programs to which they were already committed. The director of the program found it necessary to demonstrate that the program served the entire university and that the new programs were worth the expenditure of additional resources.

Specific Examples

In some programs, evaluation and review have been built into the program from the beginning. The following is a statement of this kind of review:

> "That in the sixth year of the Board of Educational Development's operation, the Committee on Committees shall appoint an Ad Hoc Committee, to examine the extent and effectiveness of the Board's activities to recommend changes in its structure if needed, and to report to the Division during that year."

Another program recently was looked at in detail by a faculty committee which found that:

> "The Educational Development Program should be continued and strengthened by the University as the major organization involved in studies aimed at the improvement of instruction at the University.

One center felt that it needed to change its direction and emphasis and, therefore, went through a review process by the university organization which initially established the program. The following is a description of its general procedure:

> "The review of Center plans was undertaken in this current year through a series of visitations to curriculum and educational development centers in other universities. Subsequent conversations have resulted in this restatement of the assumptions underlying the establishment of a center, the functions proposed for the center, and the organization of the center. Since this restatement involves a more explicit concern by the Center for the Development of Undergraduate Education, and since it proposes a more formal relationship between the Center and the All-university Council . . ., this document should go for review and action to the Committee of Deans involved in the establishment of the original Center and to the Council."

TYPICAL PROGRAMS

"Without day-to-day contact with central administration, educational development is not possible."

- Program Director, Institution "A"

"If I had the full support of central administration, my program would be dead."

- Program Director, Institution "B"

The following descriptions of typical programs was drawn from the data collected from several similar programs. The purpose in presenting these is to illustrate some of the general characteristics of these programs and is not an accurate description of any single program. Each institution has modified its own program to fit its particular institutional needs, and may, in fact, have combined two of these kinds of programs under one single office.

Educational Development Program

Purpose. The purpose of the educational development program was to develop and implement principles and procedures established by the faculty to preserve and improve undergraduate instruction. This office saw itself as a catalyst for actions taken by university committees and academic departments.

Directorate. The director of the program was an assistant academic vice president charged with the general responsibility of academic planning. He had a full-time assistant who coordinated projects supported by the program.

Staff. In addition to the director and his assistant, there were three part-time people who coordinated major developmental activities with the colleges and university committees. There were no graduate assistants. Three technical and clerical people performed secretarial, bookkeeping, and editorial functions for projects.

Services. No services were provided directly by this office, but coordination of available university services for specific projects was the responsibility of this program.

Research Areas. Research tended to be more applied than basic and was generally done in curriculum, instruction, and utilization of resources. The program did not support research in a given discipline that did not have direct instructional applications.

Budget. The total annual, general fund budget for this program was approximately $300,000 of which $225,000 was used for projects. Projects ranged in annual cost from $5,000 to $30,000.

Typical Projects. The program supported approximately 50 projects per year and included such things as an analysis of the university by-laws, the self-study of a department, the use of closed circuit television, programmed learning or multi-media laboratories in instruction, the cost effectiveness of televised instruction, or the use of standardized examinations and the development of item pools in specific courses.

Office of Instructional Resources

Purpose. The purpose of this office was to provide services which supported resident instructional activities. While some research activities were carried on, the major emphasis was on serving instructional needs of faculty.

Directorate. The director was an assistant vice president for academic affairs. He had no assistant, but had a line responsibility for several supervisors and their units.

Staff. In addition to the director and his six full-time supervisors, there was one part-time staff member. Three graduate assistants were used to help service agencies. Twenty-five full-time technical and clerical people were employed as photographers, key punch operators, secretaries, and laboratory technicians.

Services. There was a small course development section headed by a Ph.D. in psychology who worked with faculty members on general instructional problems. An examinations unit scored tests and was available to advise faculty on item analysis and test construction. A motion picture unit produced instructional materials on a contract basis. Courses were televised based on arrangements made by the registrar. Photographic and graphic services were available at minimal costs.

Research. Many research programs on techniques of instruction have been associated with this office. Studies in electronic aids to learning, the use of computers in item analysis and composition, and layout in photography were typical of this research.

Budget. The total annual budget from university general funds was about $250,000. There were also available about $5,000 to seed and provide small grants for faculty projects. The projects ranged from $100 to $300.

Typical Projects. Twenty projects were granted each year and included such things as the development of curriculum materials for teaching history, an investigation of the use of audiovisual aids for teaching Latin, the development of transparent overlay projects in engineering graphics, and the development of the case study method in home management.

Center for the Study of Human Learning

Purpose. The purpose was to act as a consulting agency to which faculty could turn for technical help and research and financial assistance on the teaching process.

Directorate. The director was a psychologist, a member of the psychology department faculty, and the full-time director of the center. He did not have any direct connection with the academic vice president although he reported to him for budgetary purposes.

Staff. In addition to the director there were five part-time professionals who had research interests in some aspect of learning as applied to instructional problems. There were ten graduate students who assisted with research. Fifteen technical and clerical people provided technical and secretarial help for research.

Services. The center provided no services other than consulting and training associated with problems of learning, computer assisted instruction, programmed learning, and evaluation.

Research. Characteristic research interests included pedagogical games, personality, attitude change, learning theory, psycholinguistics, motivation, computer based information systems, computer assisted instruction, and the training of teaching fellows.

Budget. The total annual general fund expenditure for this operation was about $100,000 of which $20,000 to $25,000 was available to faculty members for research projects. Projects ranged from $100 to $2,500.

Typical Projects. Fifteen projects per year were supported in such areas as T-grouping in introductory psychology, information gathering, decision making, and experimental instructional materials designed for computer based systems, self-instructional materials in medicine, social work, journalism, and special tests for measuring change in economic attitudes and knowledge in the introductory course.

IMPLICATIONS FOR HIGHER EDUCATION

"Because of the interdependent nature of a college and the university with external agencies or institutions, every administrator must be involved in all activities. This applies particularly to middle management officials in central administration who are often left out."

- Middle Manager

In studying academic administration in higher education, one must separate the unique characteristics of a single aspect like educational development from the whole complex of institutional organization. A single observer finds it difficult to provide convincing and reliable estimates of the many interrelationships that exist and their implications. Yet, educational development, like any other part of a university, must be seen in some larger context. To provide this context, several topics are presented briefly below with selected observations made by some of the people interviewed for this study.

1. The university and the state. All of the universities in this study were state supported and many were land-grant colleges. Many program directors were very much concerned with their role in their state system and the services they should provide other smaller institutions in the system. There was a wide range of cooperation with other state agencies. One director reported that, "If I ever cooperate with another university in this state, I must be ready to explain my reasons to central administration." By contrast, at another institution one dean reported that, "If a man is to be an effective dean here, he should have some university faculty support to go along with his connections with business leaders and the state legislators." Cooperation was of greatest concern in states that had unified state systems.

2. The university and the city. Several universities in this study were located in or near big cities. On at least two campuses much of the discussion of educational development revolved around the kind of learning space best suited to the commuter student and the continuing education needs of the professional community. One assistant to the president said, "Once we found out that sixty percent of our students were living at home, we began to take a fresh look at all of our planning." Other directors are concerned about the growing need to retrain the practicing engineer, doctor, lawyer and other professionals in a community. No educational development has yet implemented a program to accomplish this.

3. The administrative style of the president. While no formal interviews were scheduled with the presidents of the institutions selected, much discussion was related to the particular administrative style of the president. Some faculty members felt that they didn't need to become too actively involved in central administration since the president, by and large, made decisions that were acceptable to them. That was not true at all institutions and in one case a faculty member felt, "We have to have a strong AAUP because we have such a weak president." The president's relationship with his administrative staff varied greatly from institution to institution and ranged from one president who, "likes to see himself as a consultant to his administrative staff" to another president who "calls the deans together once in a while to dialogue at them." Program directors are not likely to have much direct contact with the president, but many of their activities need to be carried on in a style compatible with that of the president. One vice president observed that solutions which require a president to delegate power are not likely to be used. "Once in a while when there's a crisis and everyone's pointing at everyone else, a man might look at his hole card and throw in. There may be so much for him to do that he's going 'buggy.' But, if there's no crisis and there's enough time, no man will give up anything."

4. Faculty power. Since directors of the educational development programs were selected because of their work on university committees, they were particularly valuable to central administration in assessing objections faculty might raise about particular innovations. Educational development itself was carried on primarily by the faculty, and therefore a director needed to be particularly sensitive to the broader issues of faculty governance and power within the university structure. Some people have observed that the ability for faculty to govern themselves differs from one discipline to another. This was best explained by a chairman in a professional school who said, "In the professional schools we are delighted to let the administration run things. Whenever the administration gets in trouble with the arts college, they call up over here and ask us to get out the votes. We are happy to round up enough votes to give the administration its way because they will, in turn, leave us alone and keep the toilets clean." Programs at institutions with strong central administration tended to have more support.

5. The undergraduate and graduate programs. Many larger, established and prestigious institutions felt that much of their strength lay in their graduate programs and the decentralization

of administrative decisions. Where this was true, it was more difficult for educational development programs to operate because they rely heavily on central administration and are designed to support undergraduate education. Among some large institutions which were developing a graduate program, the administration tended to be centralized and administrators were convinced that central direction was necessary to attain a competitive and high quality graduate program. Perhaps the most pertinent observation was made by one academic vice president who said, "We have always done well in national ratings of institutions. We don't really know why that is, but anyone who wants to change something around here has got to build a very convincing argument and fight those people who believe that new ways of doing things will erode away what we now have." It will be interesting to follow changes which will occur in an educational development program as the university emphasis shifts from undergraduate to graduate education.

6. Service versus research. This issue runs throughout all levels of higher education but was particularly important for those offices of instructional resources seeking faculty acceptance. At many institutions "publish or perish" was still strongly defended. Agencies which did not contribute to the publication output of the institution were not always considered academically respectable. Program directors needed to decide how much of their time they would devote to research activities, to building the national image of their organization, and how much time they would devote to the university and its internal problems. One director solved this problem for himself by deciding that, "As a program director, I have given up much of my consulting and convention activities because I have observed that, if a man orients his attention outside the university too much, the system will eventually eject him." Other directors, particularly in centers, need to promote research and outside funds and have concentrated much of their efforts off campus.

7. The budget line as a communication line. One former academic vice president who now has taken on exclusively staff responsibilities made the following observation. "As long as I was in the line operation I didn't have to worry about establishing a communication channel. The budget did this for me. Now that I am not directly associated with the budget line I have to establish my own communication line." The directors interviewed for this study had their own discretionary funds and in no case were they directly involved in the academic line budget operations. The director needed to find ways to establish communication links with faculty and other administrative units. This was sometimes complicated when a director had to submit a budget for an office of instructional resources in competition with the line offices of the university.

In addition to its communication functions within the institution, the budget is the instrument of communicating program needs outside the institution to the legislature. This has led some institutions to programmed budgeting. Most institutions were instructed to develop program budgets by their legislatures and did not do so voluntarily. On balance, they all felt that by doing so they gained about as much as they lost, but in every case, they had surrendered some control of their own development. Most would agree with one director of institutional research when he put it this way. "A university is foolish to go to programmed budgeting voluntarily unless the state legislature is also programmed. Otherwise, all you do is show them where to stick in the knife."

Summary

There seems to be little doubt that educational development is a dynamic and growing reality in higher education today. The student of higher education can find it worthy of study since it tends to focus on problems of major concern to almost all parts of a university. The administrator needs to look at the many different approaches being used and to find the combination that best fits the unique character of his institution. Faculty can find encouragement for new approaches to teaching and student learning. Finally, students in large undergraduate service courses can be provided a better opportunity to learn about themselves and their world.

APPENDIX A

INTERVIEW SCHEDULE

I. Questions for Central Academic Administration

A. Topic: Limited Resources
Question: Since fiscal and human resources are limited, where do you plan to put your major emphasis for new dollar expenditures?
Probes:
1. Present faculty salaries
2. More faculty
3. Teaching assistants
4. Technical support personnel
5. New programs
6. New technologies
7. More efficient teaching models

B. Topic: Increased Enrollments
Question: What plans do you have to cope with more students especially in "service" courses?
Probes:
1. More large lecture halls
2. Television
3. Independent study materials
4. Programmed laboratories
5. Teaching machines
6. Computers

C. Topic: Faculty Shortages
Question: What ways have you found to extend the number of qualified teachers you now have? What orientation and supervision do you give to new faculty and teaching assistants?
Probes:
1. In-service training
2. Reduce small group instruction
3. "Peer group" teaching
4. Team teaching
5. Large course complexes

D. Topic: Explosion of Knowledge
Question: How is your curriculum being revised to meet the demands of new knowledge and the needs to make knowledge relevant for students?
Probes:
1. Organize knowledge
2. Students' needs
3. Reorganize the curriculum
4. Reorganize course content
5. New teaching methods
6. Learning theories and applications

E. Topic: Student Demands
Question: How can we maintain traditional educational objectives and satisfy students' new demands?
Probes:
1. Student participation
2. Emerging cultural values
3. "Free" universities
4. Student newspapers
5. Student-faculty meetings
6. "Hyde Park" squares

F. Others

II. Questions for Deans, Department Chairmen, and Faculty

A. Topic: Administrative Commitment to Educational Development
Discussion: Far too much educational administration involves reacting from crisis to crisis in an attempt to keep the educational machine operating without major overhaul.
Probes:
1. Is there an administrative commitment to finding better ways to solve the growing problems?
2. Is this commitment to self improvement communicated to and supported by governing boards on the one hand and deans and department chairmen on the other?
3. Has the university committed some of its own financial resources to innovation?
4. Have faculty members been released from their day to day problems so that they can work in depth on stimulating new projects?
5. Has necessary technical support been provided and have faculty members involved in significant innovation been given visibility and professional recognition for their contributions to the well-being of the institution?

B. Topic: Faculty Commitment to Educational Development
Discussion: Faculty commitment must be developed. Academic planning and educational development in its truest sense is the province and major responsibility of the faculty.
Probes:
1. Have prestiged senior members as well as young people been active in improvement of present procedures and methods?
2. Have department chairmen identified areas for study?
3. Selected faculty?

4. Proposed new solutions?
5. Have good teachers been identified?
6. Promoted?
7. Have successful projects been communicated to other faculty and administrators?

C. Topic: Student Commitment to Educational Development
Discussion: Study after study indicates that thinking students have serious questions about the way our universities are run.
Probes:
1. Have students been challenged to come forward with positive proposals?
2. Have channels been provided, particularly at the department and college level, to evoke provocative thought concerning the relevance and effectiveness of department and college programs?
3. Can programs be improved within the framework of realistic alternatives?
4. Are student projects for teaching encouraged?
5. Intern systems developed?
6. Students interested in teacher evaluation given assistance?

III. Questions for Program Directors

A. What is the relative emphasis each institution places on the following purposes?

1. To identify major problems in the areas of the curriculum, the learning-teaching process and the utilization of faculty, financial and physical resources?
2. To stimulate and conduct research which will suggest solutions to identified problems?
3. To undertake projects and studies which give promise of improving both the quality and the efficiency of the undergraduate program?
4. To support and provide service to groups interested in experimentation with new procedures and methods in learning and teaching?
5. To facilitate implementation of faculty and administration approved solutions to problems?
6. To identify and communicate progress in research, experimentation and implementation?
7. Other?

B. How have the various institutions established the administrative framework as related to the following elements?

1. Size of the directorate?
   a. Director and assistants
   b. Technical personnel
   c. Clerical
   d. Part-time faculty and graduate students
2. Relationship to administration?
   a. Director's membership in administrative councils
   b. Line authority of director
   c. Staff responsibilities of office
3. Contact with faculty?
   a. Faculty appointment of staff
   b. Staff membership on important standing faculty committees
4. Coordination of campus experts?
   a. Subject matter experts
   b. Evaluation services and personnel
   c. Media equipment and staff
   d. Learning and teaching authorities
   e. Institutional research
5. Discretionary nature of funds?
   a. Amount contributed by university
   b. Control exercised by university
   c. Amount of outside funds
   d. Restrictions on outside funds
   e. Authority of director to spend funds
6. Granting procedures?
   a. Form of proposals
   b. Internal review procedures
   c. Reports required
   d. Number and kind of proposals submitted
   e. Number and kind of proposals accepted
   f. Number and kind of proposals rejected
   g. Coordination of current projects
   h. Evaluation of projects
   i. Provisions for continued line support

C. How do you evaluate your projects and your program?

1. Number of students affected.
   a. Student credit hours
   b. Majors/non-majors
   c. Undergraduate/graduate
2. Evidence of innovational approach.
   a. Use in other campus departments
   b. Use at other institutions

3. Potential generalization to other academic areas.
   a. Acceptance on campus
   b. Acceptance at other institutions
4. Level and areas of projects.
   a. Level (university, department, student)
   b. Area (curriculum, instruction, resources)
5. Amount and kind of service support provided.
   a. Learning theory and objectives
   b. Media
   c. Evaluation
6. Acceptance of projects in other areas.
   a. Within a department
   b. Within a college
   c. Among several colleges
7. Data on student performance.
   a. Learning
   b. Attitudes
8. Evidence of project impact on programs.
   a. Rate of project expansion
   b. Follow-up projects
   c. New directions suggested
9. Failure of omission.
   a. Areas not developed
   b. Needed projects not submitted
   c. Lack of faculty interest in central areas
10. Failure of commission.
    a. Supported projects that failed
    b. Good ideas which could not be funded

APPENDIX B

LIST OF PEOPLE INTERVIEWED

I. Staff Members of the Board of Trustees or the President

George H. Bargh, Executive Assistant to the President, University of Illinois

Jeremy Blanchet, Assistant to the President, State University of New York at Stony Brook

William Bonifay, Executive Assistant to the President, Louisiana State University

Norman Hackerman, President, The University of Texas at Austin

L. D. Haskew, Vice Chancellor, Special Projects, The University of Texas at Austin

Herbert W. Hildebrandt, Assistant to the President, The University of Michigan

Wilmer E. Kenworthy, Secretary of the University, The Pennsylvania State University

Kenneth Lau, Assistant to the President, University of Hawaii

Elmer W. Learn, Assistant to the President and University Planning Coordinator, University of Minnesota

Cecil G. Taylor, Chancellor, Louisiana State University

F. P. Thieme, Vice President, University of Washington

John Toll, President, State University of New York at Stony Brook

Allan Tucker, Vice Chancellor for Academic Affairs, Board of Regents, The Florida State University

II. Academic or Other Vice Presidents and Staff

Paul M. Althouse, Vice President for Resident Instruction, The Pennsylvania State University

Paul H. Cashman, Assistant Vice President for Educational Relationships and Development, University of Minnesota

E. Laurence Chalmers, Vice President for Academic Affairs, The Florida State University

Bowen C. Dees, Vice President, The University of Arizona

Walter H. Delaplane, Vice President, Academic Affairs, The University of Arizona

Bentley Glass, Academic Vice President, State University of New York at Stony Brook

Reuben G. Gustavson, Advisor, Television and Science Education, Professor of History, The University of Arizona

Robert W. Hiatt, Vice President for Academic Affairs, University of Hawaii

Marvin D. Johnson, Vice President for University Relations, The University of Arizona

Solomon Katz, Vice President for Academic Affairs and Provost, University of Washington

Herman L. King, Assistant Provost, Michigan State University

Richard Kosaki, Vice President for Community Colleges, University of Hawaii

Lyle H. Lanier, Executive Vice President and Provost, University of Illinois

Marion E. Marts, Vice Provost, University of Washington

Howard R. Neville, Provost, Michigan State University

Allan F. Smith, Vice President for Academic Affairs, The University of Michigan

Donald K. Smith, Associate Vice President, Academic Administration, University of Minnesota

Martin Luther Zeigler, Associate Provost, Director of Institutional Studies, University of Illinois

III. Deans and Assistants

Irwin Berg, Dean, College of Arts and Sciences, Louisiana State University

Cyril Birch, Associate Dean of Instruction, College of Letters and Science, University of California, Berkeley

Willis R. Brewer, Dean, College of Pharmacy, The University of Arizona

John Folger, Dean, Graduate School, The Florida State University

Max Goodrich, Dean, Graduate School, Louisiana State University

William L. Hays, Associate Dean, College of Literature, Science and Arts, The University of Michigan

Wayne Holtzman, Dean, College of Education, The University of Texas at Austin

James L. Jarrett, Associate Dean, School of Education, University of California, Berkeley

Robert M. Jordan, Acting Dean, Graduate School, State University of New York at Stony Brook

Harold E. Mitzel, Assistant Dean of Research Education, The Pennsylvania State University

F. Robert Paulsen, Dean, College of Education, The University of Arizona

Robert Potter, Assistant Dean, College of Education, University of Hawaii

Stanley R. Ross, Dean, College of Arts and Sciences, State University of New York at Stony Brook

William Ross, Dean, College of Business Administration, Louisiana State University

Francis A. Roy, Dean, College of Liberal Arts, The University of Arizona

Alfred Vaughan, Dean, General College, University of Minnesota

IV. Department Chairmen

Albert J. Bernatowicz, Chairman, General Science, University of Hawaii

John G. Darley, Chairman, Department of Psychology, University of Minnesota

Jerry S. Dobrovolny, Head, Department of General Engineering, University of Illinois

Halbert E. Gulley, Head, Division of General Studies, University of Illinois

Lloyd G. Humphreys, Head, Department of Psychology, University of Illinois

Lloyd Lockingen, Director, Special Studies, The University of Texas at Austin

Arthur Lumsdaine, Chairman, Department of Psychology, University of Washington

Hans M. Mark, Chairman, Department of Nuclear Engineering, University of California, Berkeley

Howard Rase, Chairman, Chemical Engineering Department, The University of Texas at Austin

Laurence Siegel, Chairman, Department of Psychology, Louisiana State University

Herbert Weisinger, Chairman, Department of English, State University of New York at Stony Brook

Stephen Winters, Director, Division of Basic Studies, The Florida State University

V. Faculty

Carl Allendoerfer, Department of Mathematics, University of Washington

Michel J. Benamou, Department of French, The University of Michigan

C. Ray Carpenter, Psychology and Anthropology, The Pennsylvania State University

Richard F. Childs, College of Pharmacy, The University of Arizona

Walter L. Dunn, Department of General Engineering, University of Washington

Daniel R. Fusfeld, Department of Economics, The University of Michigan

Robert Heck, Department of Architecture, Louisiana State University

Donald W. Johnson, Department of Educational Psychology, The Pennsylvania State University

John L. Kelley, Department of Mathematics, University of California, Berkeley

Leonardt Kreisle, College of Engineering, The University of Texas at Austin

Floyd Matson, Department of American Studies, University of Hawaii

Charles Muscatine, English Department, University of California, Berkeley

Donald W. Paden, Economics Department, University of Illinois

Melvin Rader, Department of Philosophy, University of Washington

Peter Roll, Department of Physics, University of Minnesota

W. F. Tanner, Department of Geology, The Florida State University

Donald Tate, Law School, Louisiana State University

Deno G. Thevos, Department of Educational Psychology, The Pennsylvania State University

Walter F. Westerfeld, Botany Department, The Pennsylvania State University

F. L. Whaley, Department of Psychology, The Pennsylvania State University

Cecil Wood, Department of German, University of Minnesota

VI. Program Directors

Russell W. Burris, Director, Center for Research on Human Learning, University of Minnesota

John E. Dietrich, Director, Educational Development Program, Michigan State University

Stanford C. Ericksen, Director, The Center for Research on Learning and Teaching, The University of Michigan

Leslie P. Greenhill, Director, University Division of Instructional Services, The Pennsylvania State University

Jack Jeffrey, Chairman, Research and Development Center for the College Instruction of Science and Mathematics, The University of Texas at Austin

Robert M. Kamins, Dean for Academic Development, University of Hawaii

Edward D. Lambe, Director, Instructional Resources Center, State University of New York at Stony Brook

Charles J. McIntyre, Director, Office of Instructional Resources, University of Illinois

L. O. Morgan, Director, Research and Development Center for the College Instruction of Science and Mathematics, The University of Texas at Austin

Robert Najem, Director, Articulated Instructional Media Project, University of Wisconsin

Bernard F. Sliger, Dean of Academic Affairs, Louisiana State University

Neil J. Smelser, Assistant Chancellor for Educational Development, University of California, Berkeley

Charles Walcott, Assistant to the Academic Vice President, State University of New York at Stony Brook

James H. Werntz, Jr., Director, Center for Curriculum Studies, University of Minnesota

VII. Supervisors and Staff

Frank R. Barreca, Director, Radio-Television Bureau, The University of Arizona

Robert C. Boston, Supervisor of Television Service, University of Illinois

Donald R. Brown, Research Psychologist, Center for Research on Learning and Teaching, The University of Michigan

George C. Buck, Director, Language Laboratory, University of Washington

Eugene H. Cramer, Director of Research and Evaluation, University of Wisconsin

Robert H. Davis, Director, Learning Service, Michigan State University

Raymond R. Dimeo, Supervisor of TV Productions, The Pennsylvania State University

Delmer P. Duvall, Supervisor of Motion Pictures, The Pennsylvania State University

Frank Dwyer, Coordinator, University Division of Instructional Services, The Pennsylvania State University

Sheldon Goldstein, Assistant Director of Radio and Television, University of Minnesota

Wesley J. F. Grabow, Director, Audiovisual Education Service, University of Minnesota

Hugh Green, Coordinator, Radio and Television, The University of Texas at Austin

Duncan Hansen, Director, Computer Assisted Instruction Center, The Florida State University

Leon W. Hevly, Jr., Manager, Closed Circuit Television Services, University of Washington

Peter C. Kerner, Communications Production Supervisor, Television Office, University of California, Berkeley

Russell Kropp, Director, Institute of Human Learning, The Florida State University

Edward Leos, Supervisor of Still Photographs, The Pennsylvania State University

Robert B. Lorenz, Head, Instructional Materials Division, University of Illinois

Donald A. Lubitz, Director, Graphic Services, University of Hawaii

Elisabeth R. Lyman, Research Professor, Computer Based Educational Research Laboratory, University of Illinois

E. P. Miles, Jr., Director, Computing Center, The Florida State University

James L. Miller, Jr., Director, Center for the Study of Higher Education, The University of Michigan

J. Reginald Miller, Director, Division of Extension Services, and Director of Instructional Media, University of Washington

John Penneybacker, Director, Closed Circuit Television, Louisiana State University

William Quinly, Director, Educational Media Center, The Florida State University

Donald F. Riecks, Director, Audio-Visual Services, University of Washington

Richard A. Sanderson, Director, Communications Center, University of Hawaii

Hazen J. Schumacher, Jr., Associate Director, Television Center, The University of Michigan

Guenter Schwarz, Director, Center for Research in College Instruction of Science and Mathematics, The Florida State University

Mark W. Seng, Media Coordinator, Articulated Instructional Media Project, University of Wisconsin

Malcolm Skolnick, Deputy Director, Instructional Resources Center, State University of New York at Stony Brook

Richard E. Spencer, Head, Measurement and Research, University of Illinois

Paul Stevenson, Supervisor of Graphic Services, The Pennsylvania State University

David Stickell, Supervisor of Exams and Test Service, The Pennsylvania State University

John Warner, Administrative Assistant, Center for the Study of Programmed Learning, and Research Fellow, Center for the Study of Human Learning, University of Minnesota

VIII. Institutional Research Directors and Staff

Ross O. Armstrong, Associate Director, Bureau of Institutional Research, University of Minnesota

Paul L. Dressel, Director, Office of Institutional Research, Michigan State University

Jim Firnberg, Coordinator, Institutional Research, Louisiana State University

Gustav J. Froehlich, Director, Bureau of Institutional Research, University of Illinois

Arthur T. Grant, Educational Research Analyst, Special Projects The University of Arizona

Earl Jennings, Office of Instructional Studies, The University of Texas at Austin

Mildred Kosaki, Coordinator, Institutional Research Office, University of Hawaii

Paul F. Mertins, Research Associate, Office of Institutional Research, The University of Michigan

James K. Morishima, Director, Office of Institutional Education Research, University of Washington

Joseph L. Saupe, Associate Director, Office of Institutional Research, Michigan State University

Sidney Suslow, Director, Institutional Research, University of California, Berkeley

IX. Registrars, Admissions and Planning Officers

R. Rex Jackson, Associate Director, Admissions Office, The University of Texas at Austin

Robert W. Koski, Planning Officer, Long Range Planning Office, University of Washington

William Wharton, Registrar, The Florida State University

Edward White, Director, Admissions and Records, University of Hawaii

Robert Willis, Director, Academic Research and Planning, The Florida State University

APPENDIX C

DEPARTMENTS, TYPE OF ACTIVITY, AND AMOUNT FUNDED
FOR 189 PROJECTS GRANTED BY 7 UNIVERSITY PROGRAMS 1966-67

Department	Curriculum (Course Revision, Interdisciplinary Courses, Test Construction, Departmental Studies.)	Instruction (Preparation of Films, Tapes, Graphics, etc., CCTV)	Programming (Texts, Computers, Multi-Media Carrels, Laboratories, & Simulation.)	Amount
Accounting	X			$ 1,600
Accounting			X	2,500
Accounting			X	8,200
Accounting		X		2,533
Accounting		X		1,600
American History		X		1,530
American Studies	X			1,170
American Studies	X			3,000
American Thought and Language	X			1,087
Anatomy		X		300
Anthropology			X	3,066
Applied Mechanics		X		

Department	Curriculum	Instruction	Programming	Amount
Architectural Engineering		X		$ 300
Architectural Engineering	X			2,000
Architectural Engineering		X		1,600
Architectural Engineering		X		300
Architectural Engineering		X		1,000
Architectural Engineering	X			6,344
Art		X		2,412
Art	X			1,225
Art	X			1,770
Art		X		1,600
Art		X		1,600
Art	X			100
Art	X			2,000
Art	X			2,733
Art Education		X		1,600
Art Education		X		1,600
Asian Languages		X		1,450
Biological Sciences	X			1,600
Biological Sciences	X			1,600
Biological Sciences	X			1,600
Biological Sciences	X			1,600

Department	Curriculum	Instruction	Programming	Amount
Botany		X		$ 300
Botany		X		4,400
Botany		X		1,345
Business	X			1,600
Business	X			1,600
Business Administration			X	2,000
Chemistry			X	2,250
Chemistry	X			1,600
Chemistry	X			1,600
Chemistry		X		16,065
Chemistry		X		3,046
Chemistry		X		5,222
Chemical Engineering	X			1,800
Civil Engineering	X			437
Civil Engineering	X			1,600
Civil Engineering	X			6,922
Classics		X		300
Communication	X			500
Communication		X		500
Communication		X		600
Computer Science		X		2,448

Department	Curriculum	Instruction	Programming	Amount
Drafting	X			$ 2,375
Economics	X			1,600
Economics		X		1,600
Economics		X		7,915
Economics		X		500
Education		X		513
Education		X		1,600
Education				2,685
Education	X		X	300
Education				170
Education	X			1,144
Education	X			
Educational Communications		X		2,100
Elementary Education	X			1,600
Energy Engineering	X			3,044
English	X			750
English			X	1,600
English	X			1,600
English		X		1,600
English			X	280
English			X	112
English		X		150
English	X			2,240
English		X		2,334
English		X		2,085

Department	Curriculum	Instruction	Programming	Amount
Finance		X		$ 1,600
Finance		X		1,600
Finance	X			3,655
French	X			2,644
French	X			2,853
Geography	X			2,000
Geography	X			7,084
Geology		X		3,334
Geology		X		5,400
Geology	X			1,600
Geology		X		1,600
Geology			X	1,600
General Engineering			X	2,444
German & Russian		X		300
German & Russian	X			445
German & Russian	X			1,800
German & Russian	X			1,977
Government	X			1,600
Government		X		1,600
Government	X			1,600
Government	X			2,000
Government			X	1,600

Department	Curriculum	Instruction	Programming	Amount
Health and Physical Education		X		$ 1,380
Health and Physical Education		X		1,600
Health and Physical Education		X		1,600
Health and Physical Education		X		1,222
History	X			1,600
History	X			1,600
History	X			1,600
History		X		200
History		X		300
History		X		450
History/Humanities/ English	X			1,600
Home Economics		X		1,600
Home Management	X			150
Horticulture		X		1,600
Interior Design	X			1,800
Journalism			X	300
Journalism		X		1,000

Department	Curriculum	Instruction	Programming	Amount
Justin Morrill College	X			$ 4,658
Literature, Science and Arts	X			200
Management			X	1,600
Management		X		1,600
Marketing			X	1,600
Marketing	X			1,600
Mathematics		X		1,600
Mathematics		X		1,600
Mathematics	X			5,742
Mathematical Education	X			1,600
Mechanical Engineering	X			1,930
Mechanical Engineering	X			2,683
Medicine		X		100
Metallurgical Engineering	X			2,954
Meteorology		X		1,600
Modern Languages		X		1,600
Modern Languages		X		1,600

Department	Curriculum	Instruction	Programming	Amount
Music			X	$ 1,600
Music		X		1,600
Music		X		1,600
Music		X		1,600
Music		X		1,600
Music	X			200
Music		X		300
Music		X		7,765
Music			X	2,875
Music Education		X		300
Natural Science	X			10,227
Nursing	X			1,562
Nursing		X		7,050
Oceanography	X			290
Philosophy			X	300
Philosophy & Religion		X		1,600
Physics	X			1,600
Physics	X			4,037
Physical Science			X	2,112
Physiology		X		16,393

Department	Curriculum	Instruction	Programming	Amount
Psychology		X		$ 2,671
Psychology			X	1,600
Psychology	X			1,600
Psychology		X		1,600
Psychology		X		700
Psychology	X			900
Psychology			X	500
Psychology	X			9,006
Psychology			X	8,116
Psychology	X			2,111
Psychology		X		1,222
Romance Languages	X			5,563
Science & Mathematics Teaching Center	X			585
Social Science	X			2,456
Social Work		X		500
Sociology		X		1,600
Sociology	X			1,600
Sociology	X			8,750
Sociology	X			1,823
Soil Science			X	1,725

Department	Curriculum	Instruction	Programming	Amount
Speech	X			$ 900
Speech	X			2,160
Speech	X			1,600
Speech		X		1,600
Speech		X		700
Speech			X	5,086
Speech			X	1,125
Speech				2,000
Speech	X			1,700
Speech	X			
Statistics			X	11,390
Surgery & Medicine	X			20,465
Teacher Education	X			23,704
Textiles, Cloth & Related Arts		X		1,440
Theatre Arts	X			175
University School			X	1,600
Zoology		X		3,476
Zoology	X			300
Zoology	X			600